amend
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What is claimed is;

1. A semiconductor device sealing the die pad and a semiconductor chip mounted on it with a resin, characterized in that the main surface of the semiconductor chip is covered by an layer of organic material and an outward appearance of the die pad is smaller than that of the semiconductor chip.

2. A semiconductor device according to claim 1, characterized in that said layer of organic material is made of polyimide resins.

3. A semiconductor device according to claim 1, characterized in that said layer of organic material is made of photosensitive polyimide resins.

4. A semiconductor device according to claim 1, characterized in that a passivation film of the inorganic insulation materials is formed on the top layer of conductive wirings formed on the main surface of said semiconductor chip and said layer of organic material is formed on said passivation film.

5. A semiconductor device according to claim 4, characterized in that a bonding pad is formed by making an hole to said layer of organic material and said passivation film, and said

bonding pad and a lead are electrically connected through a wire.

6. A semiconductor device according to claim 4, characterized in that said passivation film is composed of any one of silicon oxide film, silicon nitride film or those lamination films.

7. A semiconductor device according to claim 1, characterized in that said die pad comprises the Fe-Ni alloys or Cu.

8. A method for making a semiconductor device characterized by comprising steps of:

(a) making a passivation film of the inorganic insulation materials on a top layer of conductive wirings after forming the top layer of conductive wirings on the main surface of a semiconductor wafer, and then making an layer of organic material on said passivation film,

(b) making a bonding pad by holing said layer of organic material and said passivation film on said top layer of conductive wirings by the etching that makes a photo resist film formed on said layer of organic material a mask,

(c) heating said layer of organic material after removing said photo resist film by using a resist removal liquid,

(d) making a semiconductor chip by dicing said semiconductor wafer,

(e) mounting said semiconductor chip on a die pad after preparing a lead frame with said die pad with an outward appearance that is smaller than that of said semiconductor chip,

(f) sealing said semiconductor chip and said die pad by resin mold.

9. A method for making a semiconductor device according to claim 8, characterized in that said resist removal liquid includes the phenol system solvent as the main component.

10. A method for making a semiconductor device according to claim 8, characterized in that it is further provided between the step (c) and the step (d), thinning a thickness of said semiconductor wafer by grounding the back of said semiconductor wafer in the state that the main surface of said semiconductor wafer is covered with the second photo resist film and a protect tape and then heating said layer of organic material.

11. A method for making a semiconductor device, characterized by comprising the steps of:

(a) making a passivation film of the inorganic insulation materials on a top layer of conductive wirings after forming the top layer of conductive wirings on the main surface of a

semiconductor wafer, and then making an photosensitive polyimide resin layer on said passivation film,

(b) making a hole to said photosensitive polyimide resin layer formed on said top layers of conductive wirings by exposing and developing said photosensitive polyimide resin layer,

(c) exposing a bonding pad by holing said passivation film formed on the said top layer of conductive wirings by etching method using said photosensitive polyimide resin layer having said hole as a mask,

(d) heating said photosensitive polyimide resin layer to the high temperature,

(e) making a semiconductor chip by dicing said semiconductor wafer,

(f) preparing a lead frame with a die pad with a outward appearance that is smaller than that of said semiconductor chip, and then mounting said semiconductor chip to said die pad,

(g) sealing said semiconductor chip and said die pad with resin.

12. A semiconductor device sealing a semiconductor chip, covering a passivation film of the inorganic insulation materials formed on a top of layer of conductive wirings with an layer of organic material, and a die pad, whose an outward appearance is smaller than that of said

semiconductor chip and which is mounted on said semiconductor chip, characterized in that said layer of organic material and said resins make an interface in a main surface side of said semiconductor chip sealed by said resins, and that said semiconductor chip and said resins make an interface except of an area with which said semiconductor chip and said die pad in a back surface side of said semiconductor chip overlap.

13. A method of making a semiconductor device, characterized by comprising steps of:

(a) making a passivation film of the inorganic insulation materials on a top layer of conductive wirings after forming the top layer of conductive wirings on the main surface of a semiconductor wafer, and then covering said passivation film with said layer of organic material.

(b) ething a part of said layer of organic material by using a photo resist film as a mask,

(c) baking said layer of organic material after removing said photo resist film by using a resist removal liquid,

(d) mounting, after separating said semiconductor wafer into a plurality of semiconductor chip, said semicondudtor chip on a die pad with an outer appearance which is smaller than that of said semiconductor chip, and then sealing said semiconductor chip and said die pad by resin mold.

14. A method for making a semiconductor device characterized by comprising steps of:

(a) making a passivation film of the inorganic insulation materials on a top layer of conductive wirings after forming the top layer of conductive wirings on the main surface of a semiconductor wafer, and then covering said passivation film with said layer of organic material,

(b) ething a part of said layer of organic material by using a photo resist film as a mask,

(c) baking said layer of organic material after removing said photo resist film by using a resist removal liquid,

(d) grounding the back surface of said semiconductor wafer after covering said layer of organic material with a second photo resist film,

(e) backing said layer of organic material after removing said second photo resist film by using a resist removal liquid,

(d) mounting, after separating said semiconductor wafer into a plurality of semiconductor chip, said semiconductor chip on a die pad of a lead frame with an outward appearance which is smaller than that of said semiconductor chip, and then sealing said semiconductor chip and said die pad by resin mold.

15. A method for making a semiconductor device according to

claim 14, characterized in that the step (e) is performed at such a temperature that the bonding power between said layer of organic material and said resins is recovered.

16. A method for making a semiconductor device characterized by comprising steps of:

(a) making a passivation film of the inorganic insulation materials on a top layer of conductive wirings after forming the top layer of conductive wirings on the main surface of a semiconductor wafer, and then covering said passivation film with said layer of organic material,

(b) ething a part of said layer of organic material by using a photo resist film as a mask,

(c) removing said photo resist film by using a resist removal liqiud, and then grounding the back surface of said semiconductor wafer after covering said layer of organic materil with a second photo resist film,

(d) backing said layer of organic material after removing said second photo resist film by using a resist removal liquid,

(e) mounting, after separating said semiconductor wafer into a plurality of semiconductor chip, said semicondudtor chip on a die pad with an outer appearance which is smaller than that of said semiconductor chip, and then sealing said semiconductor chip and said die pad by resin mold.

17. A method for making a semiconductor device according to claim 16, characterized in that the step (d) is performed at such a temperature that the bonding power between said layer of organic material and said resins is recovered.

18. A method for making a semiconductor device, characterized by comprising steps of:

(a) making a passivation film of the inorganic insulation materials on a top layer of conductive wirings after forming the top layer of conductive wirings on the main surface of a semiconductor wafer, and then covering said passivation film with a photosensitive polyimide resin layer,

(b) making a hole to an area of said photosensitive polyimide resin layer by exposing and developing said photosensitive polyimide resin layer, and then etching a part of said passivation film by using said photosensitive polyimide resin layer having said hole as a mask,

(c) baking said photosensitive polyimide resin layer,

(d) mounting, after separating said semiconductor wafer into a plurality of semiconductor chip, said semicondudtor chip on a die pad with an outer appearance which is smaller than that of said semiconductor chip, and then sealing said semiconductor chip and said die pad by resin mold.

19. A method for making a semiconductor device according to

claim 18, characterized in that the step (c) is performed at such a temperature that the bonding power between said photosensitive polyimide resin layer and said resins is recovered.

20. A method for making a semiconductor device, characterized by comprising steps of:

(a) making a passivation film of the inorganic insulation materials on a top layer of conductive wirings after forming the top layer of conductive wirings on the main surface of a semiconductor wafer, and then covering said passivation film with a photosensitive polyimide resin layer,

(b) making a hole to an area of said photosensitive polyimide resin layer by exposing and developing said photosensitive polyimide resin layer, and then etching a part of said passivation film by using said photosensitive polyimide resin layer having said hole as a mask,

(c) grounding the back of said semiconductor wafer after covering said photosensitive polyimide resin layer with a photo resist film whether or not said photosensitive polyimide resin layer is baked,

(d) backing said photosensitive polyimide resin layer after removing said photo resist film by using a resist removal liquid,

(e) mounting, after separating said semiconductor wafer into

a plurality of semiconductor chip, said semicondudtor chip on a die pad with an outer appearance which is smaller than that of said semiconductor chip, and then sealing said semiconductor chip and said die pad by resin mold.

21. A method for making a semiconductor device according to claim 20, characterized in that the step (d) is performed at such a temperature that the bonding power between said photosensitive polyimide resin layer and said resins is recovered.